AN INQUIRY

INTO

THE RELATIVE MORTALITY,

&c.

To James Leland Esq

With Respects from

The Author

AN INQUIRY

INTO THE RELATIVE MORTALITY OF THE PRINCIPAL

Diseases of Children,

AND THE

NUMBERS WHO HAVE DIED UNDER TEN YEARS OF AGE,

IN

GLASGOW,

DURING THE LAST THIRTY YEARS.

BY ROBERT WATT, M.D.

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——— *infans*
Cui tantum in vita restat transire malorum.
LUCRET.

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1813.

THE number of inhabitants and progress of population in the kingdom, the increase or decrease of certain diseases, the comparative healthiness of different situations, climates and seasons, and the influence of particular trades and manufactures on the duration of life, are subjects of the highest importance to the community, and equally interesting to the Statesman, the Philosopher, and the Physician.

PERCIVAL'S ESSAYS, VOL. III. P. 34.

AN INQUIRY

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&c.

In consulting the different authors who have written on Chincough, I found it repeatedly mentioned that the disease was more fatal some years than others; that it was more mild or more severe according to the season of the year, that it was most dangerous at a particular age; and lastly, that the female sex suffered more from it than the male. These observations accorded with a sort of estimate which I had previously formed, but still I could find no certain data to rest upon. This state of uncertainty led me to investigate the registers of deaths in Glasgow for the last thirty years. The result of which,

in so far as it respects Chincough, I have already given*.

When I commenced that investigation, I was struck with the immense numbers carried off yearly by the Small Pox. This led me to calculate the great saving of human life that must have arisen from the vaccine inoculation. At this time above fifteen thousand had been inoculated publicly at the Faculty Hall, and perhaps twice or thrice that number in private practice. I remarked too, that the deaths by Small Pox were chiefly in infancy, hence, the deaths under two or three years of age bore a very great proportion to the whole deaths in the city. Taking an average of several years, I found that more than a half of the human species died before they were ten years of age, and that of this half more than a third died of the Small Pox, so that nearly a fifth part of all that were born alive perished by this dreadful malady.

I began to reflect how different the case must be now! In eight years little more than six hundred had died of the Small Pox; whereas in 1784 the deaths by that disease alone amounted to four hundred and twenty five, and in 1791 to

* This Inquiry is subjoined to the Author's Treatise on Chincough.

six hundred and seven, which, on both occasions, exceeded the fourth of the whole deaths in the year.

To ascertain the real amount of this saving of infantile life, I turned up one of the later years, and by accident that of 1808, when to my utter astonishment, I found that still a half or more than a half perished before the tenth year of their age! I could hardly believe the testimony of my senses, and therefore began to turn up other years, when I found that in all of them the proportion was less than in 1808; but still on taking an average of several years, it amounted to nearly the same thing as at any former period during the last thirty years. This was a discovery I by no means expected, and how it could have come to pass, appeared to me inexplicable.

From every circumstance which had come under my observation, the efficacy of vaccine inoculation appeared certain. The experience of thirteen years pretty extensive practice had confirmed me fully in this opinion. But still the question recurred, how are we to account for the same or nearly the same number of deaths under ten years of age? As no new dis-

ease has appeared, the deficiency occasioned by the want of the Small Pox, must have been made up by a greater mortality among the other diseases of children. Has it been equally divided among them, or has a greater share fallen to some than to others?—To solve this question is the chief object of the following Inquiry.

The first step to be taken was to draw out Tables of the numbers who had died of each disease, and of the number of deaths under certain ages, so as to concentrate the information within as narrow limits as possible, and to shew at one view the relations they bore to one another, and their proportions to the whole deaths in the city. This I foresaw would be an arduous undertaking, but as it appeared to be the only way of solving the difficulty, I resolved to try it.

On inquiring into the state of the registers in the City, I found that something of that kind existed from a very remote period; but that it was only since the commencement of 1783 that they had been kept in a regular manner. At that time the principal burying grounds were those attached to the High Church, the College Church, and the North West Church. The interments in these three places in 1783 amounted

to 1262, while the whole deaths in the City and suburbs were 1519.

About this time the population began to increase very rapidly. A great number of Chapels and Meeting-houses were built in the suburbs, and to several of these burying grounds were attached, so that in 1798 there were more than a half of the funerals without the City.

In the City burying grounds we have almost the whole of the higher classes of the community, a large proportion of the middle ranks, and a very considerable number of the poor. The extra burying grounds are more occupied by the middle and lower orders of the community. I have noticed that in the suburbs, particularly in Calton, the proportion of deaths among children is much greater than in the City. One of the principal causes of this, I am told, is, that children can be buried there at less expense.

For the High Church burying ground there is one set of Registers; for the College and North West, another. The first of these commences with the year 1783, and the last a little earlier. For the ground attached to the Anderston Relief Meeting-house, there is a set of books which comprehend the same period. For the Calton

burying ground there is a fourth set, beginning with the year 1787, the time when the place was first inclosed for that purpose. The Gorbals Register was begun only in the year 1807. In this the proportion of deaths among children, did not appear to be greater than in the City.

These Registers are all kept nearly on the same plan. In one column they contain the date of each funeral, in another the names and designations of the persons, in a third the ages set down in years, months, weeks, and days; and lastly, the disease. With regard to all these particulars, the books bear the marks of being kept with great attention. The disease is the only thing, on which we cannot always rely with implicit confidence. All the keepers of the Registers complained of the diffieulty they experienced in accomplishing this part of their business.

I have formed the first set of Tables, by combining all the different Registers. It comprehends the whole of the last thirty years; so that at one glance, it can be seen how many have died of each disease in every year, and in every month, during that period. And as all the diseases run in parallel columns, it can be readily seen in what proportion each of them has prevailed in

particular years, and at particular seasons of the same year.

The first four columns contain Small Pox, Measles, Chincough, and Stopping. These are so distinct from one another, and so different from every other disease, that I think their numbers must be very correct. The fifth column, containing deaths by Water in the Head, is more uncertain. The symptoms are more obscure and ambiguous, besides it is only of late years, that the disease has attracted general notice.

The two next columns contain the deaths by Tecthing and Bowelhives. The promiscuous mass thrown together under these heads, may be considered nearly in the same light as the great number of deaths in the London Bills of Mortality, ranked under the terms Convulsions, Gripes of the Guts, &c. I have no doubt that a considerable number of those said to have died of Teething and Bowelhives, particularly the former, have died of Water in the Head; hence it will be observed, that since the latter disease became better known, the number of deaths under that head have increased, while those under the former have diminished.

By the Bowelhives the people generally mean

some disease connected with an eruption. If this eruption come out, the patient is relieved; if it disappear the patient grows worse. In the last case it is supposed to have retired to the bowels, and hence the origin of the name. If the patient dies in a state of convulsions, this we are told is owing to the hives having gone in about the heart, or their having seized the bowels. But the principal circumstance by which this disease is known, occurs after death. It consists in a discoloration of the skin on the more depending parts of the body, a circumstance which every medical man knows to be common to all diseases, and particularly to those which prove suddenly fatal. In some cases where I have been convinced the patients died of Water in the Head, I have been triumphantly shewn after death the livid colour of the skin, as a decisive proof that my opinion had been wrong.

I have added Abortive and Still-born, as they are always included in the deaths under ten years of age, and as they might be more or fewer in any given year, this alone would have altered the proportions.

Fevers I have added, because the number of deaths among children could not well be ac-

counted for some years, without knowing that Fevers prevailed very much, and that probably a considerable number were carried off in this way. There is no distinction attended to in the Registers, with regard to the nature of the Fever. Scarlatina, Typhus, &c. are all comprehended under the same head.

The three last columns contain all the deaths under ten years of age. On comparing this part of the Tables with the statements given at the end of the year, I found some little difference, owing to the tens being sometimes taken in, and sometimes omitted, and also owing to the twos and fives being sometimes taken into one column, and sometimes into another. In the following Tables the twos are invariably omitted in the first column, the fives in the second, and the tens in the third.

I have also found some few differences as to the numbers who have died of each disease; but I have allowed none of these to escape, without satisfying myself that the numbers I have given were correct. In some of the vaccine reports it will be remarked, that the numbers who have died of Small Pox, are not so great as those which I have given; but it must be remembered

that these reports apply only to the City burying grounds; whereas in the Tables, the whole of the suburbs are also taken in, with the exception of a few inconsiderable places, where I believe no regular registers are kept.

In collecting from such a multiplicity of sources, in digesting the contents of fifteen folio volumes into so much minuteness of detail, some errors may have escaped me, both in copying and in calculation; but I am hopeful that there are none so considerable, as to affect materially the general conclusions I have drawn.

At first I had no idea of publishing the entire Tables. I intended merely to have given the result of my investigations; but after I had them fairly made out, I thought that to most readers it would be satisfactory to have the facts before them, as well as the deductions. The Tables are numerous, and to some they may appear trifling; but to others I am certain they will not only convey curious, but useful information. I know of no attempt having been made, with equal minuteness, and on so extensive a scale.

TABLE I. FOR 1783.

Months.	Small Pox.	Measles.	Chincough.	Stopping.	W. in Head.	Teething.	Bowelhives.	Still-born.	Fevers.	Under Two.	Under Five.	Under Ten.
Jan.	40	0	14	0	0	5	7	4	9	57	18	3
Feb.	41	1	10	1	1	8	8	4	7	51	23	6
Mar.	27	1	25	2	0	8	9	4	5	65	16	10
Apr.	13	7	25	1	0	6	5	0	7	37	25	10
May	12	11	31	3	0	3	9	5	3	46	20	8
June	7	17	15	2	0	0	14	1	9	53	19	6
July	6	14	11	0	2	3	8	2	14	41	14	4
Aug.	5	11	7	1	1	1	11	4	13	33	7	6
Sep.	2	3	5	1	0	5	11	3	7	22	13	5
Oct.	0	1	4	1	1	2	12	7	10	30	6	2
Nov.	2	0	4	1	0	0	3	5	17	18	4	3
Dec.	0	0	2	1	1	3	10	3	17	26	9	3
Tot.	155	66	153	14	6	44	107	42	118	479	174	66

Total Deaths in the Registers, 1413.

TABLE II. FOR 1784.

Months.	Small Pox.	Measles.	Chincough.	Stopping.	W. in Head.	Teething.	Bowelhives.	Still-born.	Fevers.	Under Two.	Under Five.	Under Ten.
Jan.	0	0	0	4	0	15	11	6	17	35	12	5
Feb.	5	0	3	5	2	17	10	7	10	51	6	3
Mar.	7	0	1	6	0	8	8	4	13	32	10	6
Apr.	8	0	1	1	1	3	2	7	7	24	6	5
May	8	0	1	3	1	7	10	5	9	33	6	3
June	24	0	3	2	1	5	5	8	6	41	13	3
July	45	0	2	3	2	4	5	6	9	58	14	3
Aug.	75	0	1	2	1	2	6	8	10	75	15	6
Sep.	68	0	1	4	1	3	7	10	7	107	32	2
Oct.	99	1	0	3	1	3	8	5	20	109	22	4
Nov.	55	0	0	3	2	2	4	3	19	52	16	4
Dec.	31	0	0	5	3	6	13	7	19	54	9	1
Tot.	425	1	13	41	15	75	89	76	146	671	161	45

Total Deaths in the Registers, 1623.

TABLE III. FOR 1785.

Months.	Small Pox.	Measles.	Chincough.	Stopping.	W. in Head.	Teething.	Bowelhives.	Still-born.	Fevers.	Under Two.	Under Five.	Under Ten.
Jan.	26	0	0	2	0	4	11	5	18	42	10	2
Feb.	16	0	0	2	2	5	7	9	19	42	10	2
Mar.	10	0	0	5	1	10	17	7	27	51	9	5
Apr	12	0	2	4	1	4	4	10	44	36	9	1
May	5	0	2	6	1	7	9	6	30	37	8	3
June	5	0	1	1	1	9	17	4	16	42	3	3
July	13	0	1	5	3	10	16	9	21	50	9	6
Aug.	23	0	1	6	0	9	12	6	20	52	11	2
Sep.	21	0	2	5	0	5	6	8	20	49	12	5
Oct.	19	0	4	6	0	5	9	6	21	42	10	6
Nov.	22	0	8		0	7	7	5	34	57	14	3
Dec.	46	0	13	5	0	4	11	7	22	76	21	4
Tot.	218	0	34	50	9	79	126	82	292	576	126	42

Total deaths in the Registers, 1552.

TABLE IV. FOR 1786.

Months.	Small Pox.	Measles.	Chincough.	Stopping.	W. in Head.	Teething.	Bowelhives.	Still born.	Fevers.	Under Two.	Under Five.	Under Ten.
Jan.	37	1	12	7	1	6	16	10	25	71	18	4
Feb.	22	0	16	3	0	1	10	10	18	53	20	6
Mar.	26	1	30	3	3	5	10	2	25	68	17	11
Apr.	8	0	18	0	0	3	7	7	12	54	6	5
May	11	0	25	2	1	5	10	8	16	47	18	5
June	18	0	10	4	1	5	12	6	6	48	7	4
July	26	0	3	3	2	6	8	8	9	47	7	4
Aug.	31	0	10	3	2	2	9	5	10	52	11	3
Sep.	30	0	9	0	1	10	6	8	11	56	10	2
Oct.	33	0	10	2	1	6	8	5	9	52	18	3
Nov.	45	0	15	3	0	5	11	11	17	71	18	2
Dec.	61	0	15	3	1	9	10	7	19	87	29	7
Tot.	348	2	173	33	13	63	117	87	177	706	179	56

Total deaths in the Registers, 1622.

TABLE V. FOR 1787.

Months.	Small Pox.	Measles.	Chincough.	Stopping.	W. in Head.	Teething.	Bowelhives.	Still-born.	Fevers.	Under Two.	Under Five.	Under Ten.
Jan.	55	0	6	4	1	6	4	11	20	71	27	6
Feb.	38	1	7	6	0	5	17	5	10	72	19	2
Mar.	54	1	8	4	1	5	6	5	15	69	22	5
Apr.	24	2	7	6	1	7	15	4	20	55	20	11
May	20	1	6	2	1	6	10	4	26	42	11	3
June	15	5	4	1	1	4	10	13	14	53	10	2
July	17	3	3	6	2	7	14	12	22	57	12	4
Aug.	29	4	4	1	1	10	6	11	15	51	12	5
Sep.	25	1	5	1	0	3	11	14	18	53	16	12
Oct.	37	2	2	6	2	6	10	9	23	66	18	3
Nov.	43	2	2	4	2	11	8	9	24	76	16	3
Dec.	53	1	3	2	2	9	10	10	33	81	22	9
Tot.	410	23	57	43	14	79	121	107	240	746	205	65

Total Deaths in the Registers, 1802.

TABLE VI. FOR 1788.

Months.	Small Pox.	Measles.	Chincough.	Stopping.	W. in Head.	Teething.	Bowelhives.	Still-born.	Fevers.	Under Two.	Under Five.	Under Ten.
Jan.	41	0	3	5	0	1	7	8	32	55	19	6
Feb.	39	0	1	5	2	8	7	10	33	69	20	6
Mar.	43	0	1	2	0	9	18	10	38	83	21	6
Apr	41	0	1	3	1	6	13	8	35	78	14	10
May	24	0	2	7	3	2	9	12	23	45	20	8
June	31	1	0	9	1	1	6	8	20	54	21	4
July	43	0	1	3	1	9	2	4	14	66	14	5
Aug.	49	0	1	2	2	2	10	6	16	78	14	5
Sep.	32	0	1	7	1	2	15	5	27	61	19	6
Oct.	18	0	2	10	0	6	5	13	21	53	12	4
Nov.	18	0	2	9	5	9	7	10	20	58	23	6
Dec.	20	0	2	11	1	5	13	15	23	70	24	2
Tot.	399	1	17	73	17	60	112	109	302	770	221	68

Total Deaths in the Registers, 1982.

TABLE VII. FOR 1789.

Months.	Small Pox.	Measles.	Chincough.	Stopping.	W. in Head.	Teething.	Bowelhives.	Still-born.	Fevers.	Under Two.	Under Five.	Under Ten.
Jan.	14	1	0	9	2	10	14	12	28	65	11	5
Feb.	13	1	0	8	0	9	19	13	13	57	17	6
Mar.	27	0	7	4	2	12	9	5	15	66	16	2
Apr.	30	1	3	2	1	2	4	11	3	46	9	4
May	39	0	4	1	9	5	9	8	11	58	24	8
June	24	0	5	7	0	4	8	9	14	60	22	9
July	28	0	4	3	3	4	11	15	3	55	19	5
Aug.	36	0	2	10	4	2	12	10	9	75	9	0
Sep.	37	1	7	6	1	5	14	9	6	77	13	10
Oct.	33	5	6	11	1	8	17	5	5	79	14	8
Nov.	42	4	2	7	0	2	11	7	9	69	14	11
Dec.	43	10	5	8	7	5	9	11	19	87	20	8
Tot.	366	23	45	76	30	68	137	115	135	794	188	76

Total Deaths in the Registers, 1753.

TABLE VIII. FOR 1790.

Months.	Small Pox.	Measles.	Chincough.	Stopping.	W. in Head.	Teething.	Bowelhives.	Still-born.	Fevers.	Under Two.	Under Five.	Under Ten.
Jan.	44	8	9	6	2	7	14	7	16	76	29	9
Feb.	40	3	13	10	1	5	14	6	10	81	23	7
Mar.	33	1	13	6	4	4	9	12	22	84	18	11
Apr.	33	1	17	5	4	7	13	12	5	81	18	7
May	36	0	17	3	4	4	12	5	20	80	19	4
June	34	1	12	4	4	7	7	10	17	70	28	8
July	37	0	11	8	4	5	14	7	11	73	19	6
Aug.	33	4	14	4	2	7	7	14	10	73	19	12
Sep.	20	2	13	6	2	5	6	5	7	73	15	8
Oct.	11	0	20	10	5	1	8	10	6	78	17	1
Nov.	5	7	19	6	0	5	13	7	11	48	24	5
Dec.	10	6	19	10	6	9	14	8	20	86	18	8
Tot.	336	33	177	78	38	66	131	103	155	903	247	86

Total Deaths in the Registers, 1866.

TABLE IX. FOR 1791.

Months.	Small Pox.	Measles.	Chincough.	Stopping.	W. in Head.	Teething.	Bowelhives.	Still-born.	Fevers.	Under Two.	Under Five.	Under Ten.
Jan.	14	1	13	13	2	2	16	5	11	74	20	3
Feb.	10	0	10	6	1	9	17	8	11	52	19	6
Mar.	6	0	20	14	1	8	7	14	8	60	17	8
Apr.	15	0	13	9	5	11	9	16	16	65	26	5
May	18	0	9	7	5	9	11	8	15	69	22	4
June	41	0	5	8	5	10	7	8	9	61	28	8
July	33	0	4	4	1	3	12	5	11	57	16	2
Aug.	71	0	13	4	3	7	13	12	11	101	32	5
Sep.	78	0	6	3	2	7	12	10	9	102	24	5
Oct.	114	0	4	8	0	4	7	9	12	118	36	6
Nov.	94	0	12	5	4	6	9	8	10	105	38	5
Dec.	113	3	8	8	6	2	9	9	9	126	42	6
Tot.	607	4	117	89	35	78	129	112	132	984	320	63

Total Deaths in the Registers, 2146.

TABLE X. FOR 1792.

Months.	Small Pox.	Measles.	Chincough.	Stopping.	W. in Head.	Teething.	Bowelhives.	Still-born.	Fevers.	Under Two.	Under Five.	Under Ten.
Jan.	52	1	7	9	3	2	9	8	15	76	30	9
Feb.	28	0	4	3	1	5	3	11	12	48	15	3
Mar.	13	1	5	4	5	12	10	9	13	53	11	2
Apr.	7	3	4	0	5	11	13	9	19	52	9	4
May	3	8	3	7	1	10	5	5	9	38	10	3
June	4	11	3	6	0	7	10	11	15	48	16	5
July	4	17	4	1	0	9	10	6	11	48	24	8
Aug.	10	3	5	4	0	7	13	12	14	51	15	1
Sep.	11	3	9	4	1	8	9	10	15	56	15	3
Oct.	14	3	5	3	2	8	7	7	16	50	5	5
Nov.	25	4	8	2	0	13	15	8	32	75	19	7
Dec.	31	4	11	6	0	7	16	11	34	69	15	4
Tot.	202	58	68	49	18	99	120	107	205	664	184	54

Total Deaths in the Registers, 1848.

TABLE XI. FOR 1793.

Months.	Small Pox.	Measles.	Chincough.	Stopping.	W. in Head.	Teething.	Bowelhives.	Still-born.	Fevers.	Under Two.	Under Five.	Under Ten.
Jan.	14	2	13	5	0	6	6	13	35	51	24	11
Feb.	17	3	15	4	4	15	9	9	26	68	28	7
Mar.	18	0	24	6	5	11	16	11	18	86	29	4
Apr.	18	0	12	0	8	22	8	8	26	78	18	9
May	19	0	13	4	5	12	10	8	20	55	15	11
June	16	0	10	2	6	7	12	8	10	53	16	4
July	26	0	4	5	1	7	6	8	7	58	11	6
Aug.	31	0	3	3	5	4	4	5	10	57	13	9
Sep.	56	0	6	3	1	5	4	1	5	76	15	2
Oct.	54	0	4	2	3	3	5	4	12	61	12	8
Nov.	64	0	5	2	3	3	9	10	5	75	29	3
Dec.	56	0	3	6	2	8	11	9	9	89	29	6
Tot.	389	5	112	42	43	103	100	94	183	807	239	80

Total Deaths in the Registers, 2045.

TABLE XII. FOR 1794.

Months.	Small Pox.	Measles.	Chincough.	Stopping.	W. in Head.	Teething.	Bowelhives.	Still-born.	Fevers.	Under Two.	Under Five.	Under Ten.
Jan.	69	0	4	4	1	6	7	8	5	92	22	6
Feb.	41	0	0	1	3	4	4	8	8	52	14	9
Mar.	37	0	1	2	2	7	11	11	9	64	12	2
Apr.	19	0	5	6	2	0	13	9	13	60	14	8
May	10	0	6	2	3	1	10	11	6	38	8	7
June	7	0	3	5	1	2	12	4	19	36	11	5
July	6	0	1	2	5	2	11	2	13	29	12	3
Aug.	9	1	4	3	1	3	3	5	8	33	7	5
Sep.	3	0	3	2	1	5	7	5	9	31	10	3
Oct.	9	2	6	1	4	6	5	7	16	31	9	4
Nov.	11	3	9	4	3	1	9	7	10	44	12	5
Dec.	14	1	9	4	3	7	5	6	10	43	13	5
Tot.	235	7	51	36	29	44	97	83	126	553	144	62

Total Deaths in the Registers, 1445.

TABLE XIII. FOR 1795.

Months.	Small Pox.	Measles.	Chincough.	Stopping.	W. in Head.	Teething.	Bowelhives.	Still-born.	Fevers.	Under Two.	Under Five.	Under Ten.
Jan.	16	14	12	6	3	8	8	8	14	63	19	2
Feb.	14	4	23	3	0	2	5	6	10	56	15	8
Mar.	16	10	22	3	2	8	18	8	9	75	21	7
Apr	22	4	19	4	0	4	12	4	10	64	17	4
May	25	3	26	2	6	5	14	7	8	77	19	7
June	38	4	25	1	2	1	9	1	8	71	19	9
July	40	0	12	0	1	2	19	6	4	60	17	7
Aug.	49	1	12	2	4	2	10	4	2	59	19	2
Sep.	59	2	4	2	1	0	4	8	4	72	22	2
Oct.	35	2	8	3	2	3	6	8	6	62	13	3
Nov.	47	1	8	1	4	2	5	3	4	48	20	6
Dec.	41	1	9	1	2	3	5	9	13	54	24	5
Tot.	402	46	180	28	27	40	115	72	92	761	225	62

Total Deaths in the Registers, 1901.

TABLE XIV. FOR 1796.

Months.	Small Pox.	Measles.	Chincough.	Stopping.	W. in Head.	Teething.	Bowelhives.	Still-born.	Fevers.	Under Two.	Under Five.	Under Ten.
Jan.	37	0	3	8	3	1	6	10	6	55	16	3
Feb.	26	0	2	3	9	4	7	2	8	43	14	5
Mar.	26	0	5	3	4	3	7	7	7	56	13	4
Apr.	8	2	7	6	5	3	4	6	7	35	12	3
May	17	15	6	5	4	2	12	8	9	50	19	8
June	8	23	6	5	2	6	7	7	20	45	24	6
July	9	22	3	1	3	2	11	8	5	47	13	3
Aug.	12	14	3	0	1	8	6	10	8	42	12	3
Sep.	9	7	1	5	6	3	12	10	14	47	16	3
Oct.	7	2	5	10	2	8	5	5	13	50	6	3
Nov.	7	1	7	2	2	6	8	8	17	44	13	2
Dec.	11	6	12	9	5	0	8	9	23	48	23	11
Tot.	177	92	60	57	46	46	93	90	137	562	181	54

Total Deaths in the Registers, 1369.

TABLE XV. FOR 1797.

Months.	Small Pox.	Measles.	Chincough.	Stopping.	W. in Head.	Teething.	Bowelhives.	Still-born.	Fevers.	Under Two.	Under Five.	Under Ten.
Jan.	14	0	10	8	3	5	7	4	15	41	26	7
Feb.	20	0	8	8	6	7	8	7	21	46	28	6
Mar.	33	0	11	15	4	4	9	10	20	68	27	7
Apr.	44	1	8	6	2	3	3	11	26	55	30	6
May	47	1	6	5	2	3	6	5	15	55	24	5
June	51	0	7	5	3	2	11	5	10	59	29	3
July	43	0	6	4	3	0	8	6	13	55	13	4
Aug.	28	0	2	2	3	1	7	3	11	43	14	6
Sep.	17	0	6	2	0	4	5	3	11	36	5	1
Oct.	13	0	6	7	0	3	6	8	10	36	8	5
Nov.	19	1	5	4	1	3	5	8	8	46	13	3
Dec.	25	2	7	1	4	3	9	7	23	46	24	4
Tot.	354	5	76	67	31	38	84	77	183	586	241	57

Total Deaths in the Registers, 1662.

TABLE XVI. FOR 1798.

Months.	Small Pox.	Measles.	Chincough.	Stopping.	W. in Head.	Teething.	Bowelhives.	Still-born.	Fevers.	Under Two.	Under Five.	Under Ten.
Jan.	21	0	12	3	4	2	11	7	9	52	22	8
Feb.	8	0	3	4	2	7	9	8	8	38	13	1
Mar.	15	0	6	3	7	6	5	7	7	40	14	4
Apr.	17	0	5	1	1	5	11	10	8	47	11	2
May	18	0	6	1	3	2	6	11	13	40	12	3
June	13	0	5	2	1	2	8	7	17	35	5	5
July	32	1	8	2	2	4	15	7	7	61	16	4
Aug.	13	1	3	1	2	2	10	13	4	46	9	5
Sep.	26	0	4	0	2	1	11	10	6	55	8	1
Oct.	36	0	13	0	2	8	8	8	6	58	20	2
Nov.	45	1	17	1	1	2	15	13	8	75	21	2
Dec	65	0	16	4	1	9	9	8	14	95	30	4
Tot.	309	3	98	22	28	50	118	109	107	642	181	41

Total Deaths in the Registers, 1603.

TABLE XVII. FOR 1799.

Months.	Small Pox.	Measles.	Chincough.	Stopping.	W. in Head.	Teething.	Bowelhives.	Still-born.	Fevers.	Under Two.	Under Five.	Under Ten.
Jan.	69	1	23	9	5	6	8	21	18	100	44	6
Feb.	43	0	13	6	4	3	15	10	16	63	31	7
Mar.	47	0	11	1	2	3	13	13	9	76	15	11
Apr.	38	0	6	3	1	1	13	18	12	70	16	9
May	23	0	10	3	6	3	10	9	10	57	14	6
June	21	0	2	7	8	0	21	13	12	56	16	3
July	21	1	4	6	5	3	9	14	14	48	18	3
Aug.	20	5	2	2	4	6	7	13	16	47	14	8
Sep.	23	5	3	3	5	3	17	12	15	55	15	6
Oct.	21	10	12	4	7	10	16	13	14	69	29	6
Nov.	18	12	6	2	2	7	12	15	23	66	20	7
Dec.	26	9	3	2	3	2	15	15	21	76	12	6
Tot.	370	43	95	48	52	47	156	166	180	783	244	78

Total Deaths in the Registers, 1906.

TABLE XVIII. FOR 1800.

Months.	Small Pox.	Measles.	Chincough.	Stopping.	W. in Head.	Teething.	Bowelhives.	Still-born.	Fevers.	Under Two.	Under Five.	Under Ten.
Jan.	27	4	3	4	1	1	9	11	18	52	24	6
Feb.	14	3	6	2	3	4	7	6	15	32	18	4
Mar.	16	3	5	1	3	2	9	7	13	39	14	6
Apr.	20	1	1	3	5	1	5	10	4	35	17	5
May	11	0	1	1	0	2	6	12	12	39	5	3
June	11	2	1	1	2	0	4	9	8	31	5	2
July	18	1	2	3	3	2	7	7	9	46	3	7
Aug.	22	1	1	3	4	2	10	9	6	56	7	3
Sep.	27	5	0	5	3	1	7	9	9	61	12	4
Oct.	22	0	2	0	3	2	4	11	10	50	13	4
Nov.	36	0	2	1	2	1	4	12	11	51	9	3
Dec.	33	1	3	1	3	2	9	16	10	53	21	6
Tot.	257	21	27	25	32	20	81	119	125	545	148	53

Total Deaths in the Registers, 1550.

TABLE XIX. FOR 1801.

Months.	Small Pox.	Measles.	Chincough.	Stopping.	W. in Head.	Teething.	Bowelhives.	Still-born.	Fevers.	Under Two.	Under Five.	Under Ten.
Jan.	43	0	11	3	2	2	9	8	9	55	22	10
Feb.	15	0	8	4	5	0	7	9	7	39	15	7
Mar.	13	1	16	5	1	3	3	5	12	40	16	3
Apr.	17	1	10	4	1	4	2	8	9	36	17	4
May	13	0	10	3	2	2	4	5	1	37	15	5
June	10	1	12	1	3	0	8	2	4	25	14	4
July	8	2	6	7	1	3	10	5	6	30	14	1
Aug.	10	0	6	6	1	1	2	9	5	35	9	2
Sep.	19	0	9	4	4	2	8	5	4	35	15	5
Oct.	21	0	19	2	1	3	9	8	9	56	17	9
Nov.	33	1	5	10	2	2	4	5	12	43	22	5
Dec.	43	2	13	8	4	2	6	14	11	63	35	6
Tot.	245	8	125	57	27	24	72	83	89	494	211	61

Total Deaths in the Registers, 1434.

TABLE XX. FOR 1802.

Months.	Small Pox.	Measles.	Chincough.	Stopping.	W. in Head.	Teething.	Bowelhives.	Still-born.	Fevers.	Under Two.	Under Five.	Under Ten.
Jan.	38	2	9	7	1	7	6	13	20	48	35	13
Feb.	19	1	11	1	1	2	7	12	16	34	23	6
Mar.	13	1	15	8	2	2	4	11	12	39	27	2
Apr.	7	2	18	4	2	1	15	7	5	40	20	5
May	7	1	7	1	5	1	7	14	16	32	17	7
June	1	0	6	0	2	2	8	11	20	29	15	3
July	13	2	3	3	4	5	4	8	18	28	16	9
Aug.	7	8	1	3	3	4	13	10	23	37	19	8
Sep.	13	32	3	12	1	3	18	10	12	56	29	16
Oct.	7	46	5	8	1	0	25	17	32	70	49	10
Nov.	9	43	8	8	2	2	17	3	35	67	37	17
Dec.	22	30	4	12	1	5	14	7	38	64	39	19
Tot.	156	168	90	67	25	34	138	123	247	544	326	115

Total Deaths in the Registers, 1770.

TABLE XXI. FOR 1803.

Months.	Small Pox.	Measles.	Chincough.	Stopping.	W. in Head.	Teething.	Bowelhives.	Still-born.	Fevers.	Under Two.	Under Five.	Under Ten.
Jan.	7	13	1	6	9	3	16	12	41	59	32	15
Feb.	10	14	5	11	0	6	7	5	22	47	34	8
Mar.	9	9	7	8	1	3	6	8	22	50	24	14
Apr.	9	0	6	6	1	3	17	12	16	52	13	9
May	10	5	8	7	1	4	7	13	21	43	16	5
June	9	0	5	4	3	4	10	11	18	39	15	8
July	18	1	4	4	2	4	14	5	14	34	19	7
Aug.	8	1	1	5	1	4	17	6	20	59	11	3
Sep.	18	1	4	4	2	2	14	15	19	48	18	4
Oct.	24	0	3	4	0	1	10	8	20	54	18	3
Nov.	27	1	1	4	1	1	20	16	13	55	17	7
Dec.	45	0	15	6	1	3	18	12	16	70	26	4
Tot.	194	45	60	69	22	38	156	123	242	610	243	87

Total Deaths in the Registers, 1860.

TABLE XXII. FOR 1804.

Months.	Small Pox	Measles.	Chincough.	Stopping.	W. in Head.	Teething.	Bowelhives.	Still-born.	Fevers.	Under Two.	Under Five.	Under Ten.
Jan.	32	1	6	3	2	3	10	15	18	67	19	7
Feb.	27	0	7	7	5	2	8	16	14	63	20	11
Mar.	31	0	4	9	7	1	13	13	15	59	24	7
Apr.	38	1	4	10	3	3	7	13	12	58	23	8
May	22	2	3	9	4	1	5	7	12	42	18	6
June	9	0	2	3	4	5	9	10	14	26	12	10
July	13	1	4	5	5	2	13	10	10	36	13	10
Aug.	7	8	1	8	6	0	10	13	11	49	15	7
Sep.	10	2	6	9	4	6	7	7	9	49	11	2
Oct.	10	0	6	9	3	2	11	10	14	40	16	8
Nov.	11	7	2	4	2	3	9	7	9	43	13	7
Dec.	3	5	7	12	1	4	13	14	8	51	8	5
Tot.	213	27	52	88	46	32	115	135	146	583	192	88

Total Deaths in the Registers, 1670.

TABLE XXIII. FOR 1805.

Months.	Small Pox.	Measles.	Chincough.	Stopping.	W. in Head.	Teething.	Bowelhives.	Still-born.	Fevers.	Under Two.	Under Five.	Under Ten.
Jan.	5	15	14	14	5	6	8	11	9	66	17	11
Feb.	1	18	10	15	3	5	14	6	13	56	23	8
Mar.	1	10	11	15	7	3	8	8	11	42	19	8
Apr.	2	14	4	9	4	5	11	11	7	52	18	10
May	0	4	6	7	7	3	6	6	7	34	17	5
June	0	1	6	7	5	0	6	4	10	24	15	13
July	3	1	4	8	1	2	5	4	1	36	7	5
Aug.	5	1	6	7	3	3	17	8	7	45	10	3
Sep.	4	3	7	7	2	0	20	5	10	50	5	5
Oct.	11	8	6	6	2	5	10	14	12	57	9	5
Nov.	17	8	24	6	0	4	14	14	14	83	19	2
Dec.	7	7	31	11	4	1	6	13	15	71	29	5
Tot.	56	90	129	112	43	37	125	104	116	616	188	80

Total Deaths in the Registers, 1671.

TABLE XXIV. FOR 1806.

Months.	Small Pox.	Measles.	Chincough.	Stopping.	W. in Head.	Teething.	Bowelhives.	Still-born.	Fevers.	Under Two.	Under Five.	Under Ten.
Jan.	3	8	34	8	3	1	18	12	27	73	23	4
Feb.	6	8	21	7	8	0	11	13	17	58	20	13
Mar.	1	4	20	10	5	1	12	9	9	48	24	11
Apr.	2	11	23	7	6	3	9	9	10	52	25	9
May	1	4	19	10	6	2	8	9	15	45	19	8
June	2	7	10	4	2	0	7	6	8	27	9	5
July	1	5	5	6	3	1	14	7	13	38	6	7
Aug.	0	2	6	6	1	2	11	4	9	26	10	3
Sep.	5	0	3	8	3	5	5	9	5	34	15	3
Oct.	1	3	5	8	6	4	9	13	20	45	11	8
Nov.	4	3	8	13	0	4	6	9	9	33	16	6
Dec.	2	1	8	5	4	2	14	14	9	38	10	4
Tot.	28	56	162	92	47	25	124	114	151	517	188	81

Total Deaths in the Registers, 1629.

TABLE XXV. FOR 1807.

Months.	Small Pox.	Measles.	Chincough.	Stopping.	W. in Head.	Teething.	Bowelhives.	Still-born.	Fevers.	Under Two.	Under Five.	Under Ten.
Jan.	3	3	7	12	3	5	12	11	10	51	23	10
Feb.	1	1	3	10	5	4	15	4	21	44	13	8
Mar.	11	3	7	12	4	9	11	14	25	56	28	12
Apr.	8	1	8	8	5	3	5	11	14	48	17	13
May	2	0	2	10	6	2	8	7	10	28	9	7
June	2	1	4	8	7	5	9	7	8	37	14	6
July	9	0	2	4	3	5	14	6	17	34	13	9
Aug.	6	0	5	4	6	1	12	10	4	50	14	1
Sep.	13	3	6	10	3	3	11	16	12	58	13	9
Oct.	20	1	5	12	4	2	16	19	15	59	24	6
Nov.	10	2	18	7	5	6	17	9	12	66	20	8
Dec.	12	1	18	18	3	11	16	4	15	64	23	4
Tot.	97	16	85	115	54	56	146	118	163	595	211	93

Total Deaths in the Registers, 1806.

TABLE XXVI. FOR 1808.

Months.	Small Pox.	Measles.	Chincough.	Stopping.	W. in Head.	Teething.	Bowelhives.	Still-born.	Fevers.	Under Two.	Under Five.	Under Ten.
Jan.	11	2	10	28	2	8	22	12	22	79	27	9
Feb.	4	2	20	10	6	6	17	20	24	71	34	15
Mar.	6	5	12	15	5	6	17	19	28	71	27	22
Apr.	4	71	18	11	9	6	17	13	17	109	49	33
May	5	259	9	2	2	6	17	8	18	164	137	35
June	6	260	9	6	4	4	12	19	11	202	96	19
July	6	118	2	5	5	3	13	13	9	106	53	8
Aug.	4	32	2	9	3	1	25	12	12	76	26	7
Sep.	0	22	2	13	5	8	16	14	7	62	26	10
Oct.	3	10	2	13	1	1	6	15	8	48	11	6
Nov.	1	4	4	11	1	7	21	11	7	51	25	4
Dec.	1	2	2	9	3	8	12	12	17	40	10	7
Tot.	51	787	92	132	46	64	195	168	180	1079	521	175

Total Deaths in the Registers, 2622.

TABLE XXVII. FOR 1809.

Months.	Small Pox.	Measles.	Chincough.	Stopping.	W. in Head.	Teething.	Bowelhives.	Still-born.	Fevers.	Under Two.	Under Five.	Under Ten.
Jan.	1	4	7	6	2	2	14	8	16	37	9	9
Feb.	5	4	6	7	5	2	18	8	11	44	17	8
Mar.	1	2	7	5	10	3	18	9	14	46	11	19
Apr.	6	1	16	16	5	5	14	17	19	75	23	16
May	5	4	22	8	9	4	15	12	14	64	22	10
June	9	4	25	6	1	2	8	17	12	61	14	3
July	18	6	22	9	1	1	10	8	11	7	23	6
Aug.	19	2	15	13	3	1	12	10	10	52	24	7
Sep.	17	4	35	7	2	0	16	11	11	67	24	12
Oct.	40	1	23	18	7	5	10	14	7	87	45	7
Nov.	27	2	36	8	1	5	18	19	10	101	41	9
Dec.	11	10	45	23	5	5	12	15	12	91	34	12
Tot.	159	44	259	126	51	35	165	148	147	782	287	118

Total Deaths in the Registers, 2124.

TABLE XXVIII. FOR 1810.

Months.	Small Pox.	Measles.	Chincough.	Stopping.	W. in Head.	Teething.	Bowelhives.	Still-born.	Fevers.	Under Two.	Under Five.	Under Ten.
Jan.	11	4	33	11	7	4	7	14	9	60	32	14
Feb.	4	4	32	7	7	3	15	9	13	66	19	8
Mar.	2	3	19	10	5	2	15	17	7	65	15	8
Apr.	3	3	9	15	4	0	22	16	3	71	9	5
May	2	3	8	8	8	2	19	12	11	61	20	12
June	1	0	8	5	4	5	12	17	6	46	10	6
July	0	1	6	9	10	7	14	27	8	65	14	8
Aug.	1	0	4	7	4	7	28	17	4	69	7	4
Sep.	0	1	5	11	5	7	16	25	5	70	6	5
Oct.	0	0	5	14	4	11	21	20	7	67	11	7
Nov.	4	0	8	12	0	7	17	20	6	61	12	6
Dec.	0	0	10	14	2	4	23	9	18	64	14	10
Tot.	28	19	147	123	60	59	209	203	97	765	169	93

Total Deaths in the Registers, 2111.

TABLE XXIX. FOR 1811.

Months.	Small Pox.	Measles.	Chincough.	Stopping.	W. in Head.	Teething.	Bowelhives.	Still-born.	Fevers.	Under Two.	Under Five.	Under Ten.
Jan.	3	2	10	12	6	7	23	21	11	75	26	9
Feb.	2	1	7	10	5	5	17	6	13	49	19	15
Mar.	5	1	4	9	8	2	22	13	15	51	10	16
Apr.	5	1	5	9	10	7	21	17	10	62	16	12
May	4	1	5	5	7	2	23	12	7	51	16	6
June	5	2	3	5	7	3	21	16	12	56	14	9
July	19	1	5	2	5	1	21	12	20	52	18	17
Aug.	18	2	3	6	2	5	17	13	6	51	10	3
Sep.	20	7	8	9	4	3	12	11	10	58	19	10
Oct.	14	12	2	13	5	1	15	6	16	50	28	15
Nov.	7	76	5	9	3	4	28	13	24	99	67	12
Dec.	7	161	5	4	1	1	23	15	31	115	98	40
Tot.	109	267	62	93	63	41	243	155	175	769	341	164

Total Deaths in the Registers, 2342.

TABLE XXX. for 1812.

Months.	Small-Pox.	Measles.	Chincough.	Stopping.	W. in Head.	Teething.	Bowelhives.	Still-born.	Fevers.	Under Two.	Under Five.	Under Ten.
Jan.	5	130	7	10	4	3	45	11	18	146	92	16
Feb.	5	61	8	4	1	10	13	9	15	86	32	11
Mar.	7	30	5	6	1	4	21	9	8	61	21	13
Apr.	5	19	10	11	9	2	21	5	13	61	33	8
May	3	15	6	6	4	5	21	14	3	62	26	6
June	2	18	5	5	4	1	27	13	4	48	25	10
July	4	5	7	8	6	3	13	9	5	41	13	8
Aug.	9	6	1	5	2	5	15	8	5	45	15	4
Sep.	13	6	7	16	6	4	23	8	5	67	26	4
Oct.	14	3	9	10	5	2	20	7	7	55	28	8
Nov.	7	1	10	11	5	4	26	3	14	55	22	9
Dec.	4	10	28	11	7	2	34	8	8	77	38	6
Tot.	78	304	103	103	54	45	279	104	105	804	371	103

Total Deaths in the Registers, 2348.

Having now the whole materials before me, my next step was to ascertain the exact proportion which the deaths by each disease bore to the whole deaths in the Registers, and to see what proportions had died under the ages of two, five and ten years. With this view, I divided the whole thirty years into five equal periods of six years each. The first three of these periods had passed before the vaccine inoculation could have had any influence; in the fourth it had nearly reached its maximum; and in the last it may be said to have been pretty fully established, perhaps as much so, as in any other City in the Empire.

On this plan I constructed the following Table, which brings the relative proportion of deaths by the different diseases, at different periods, within very narrow limits. The first column of figures contains the numbers who have died by Small Pox out of each hundred. Thus adding together the whole deaths by Small Pox in the first period, they amounted to 1955, by adding the total deaths in the same period, they amounted to 9994, hence, it was discovered that of each hundred, nineteen and fifty five hundredth parts died of the Small Pox. In other

words, the deaths by Small Pox amounted to nineteen and something more than a half per cent. of the whole deaths in the Registers. I proceeded in the same manner with Measles, Chincough, and all the other diseases, and also with regard to the different ages.

To ascertain the increase or decrease of the deaths by any of the diseases, or at any particular age, observe the column of figures immediately below. Thus, under Measles in the first period we find .93 a decimal fraction. At that time the average of deaths by Measles did not amount to one per cent. of the whole deaths in the Registers. In the second period they amounted to 1.17 or twenty four hundredth parts of a per cent. more than in the first. In the third period to 2.10, or nearly one per cent. more than in the second. In the fourth period to 3.92, and in the last period to 10.76.

TABLE XXXI.

SHEWING THE GENERAL RESULT OF THE PRECEDING TABLES.

Periods.	Small Pox.	Measles.	Chincough.	Stopping.	W. in Head.	Teething.	Bowelhives.	Still-born.	Fevers.	Under Two.	Under Five.	Under Ten.	Total under Ten.	Total Deaths in the Registers.
I.	19.55	.93	4.51	2.54	.74	4.	6.72	5.03	12.65	39.40	10.66	3.42	53.48	9994
II.	18.22	1.17	5.13	3.33	1.73	4.12	6.43	5.53	8.43	42.38	11.90	3.79	58.07	11103
III.	18.70	2.10	5.36	2.47	2.14	2.41	6.47	6.33	8.24	38.82	12.21	3.45	54.48	9991
IV.	8.90	3.92	6.12	4.93	2.11	1.89	7.27	6.69	9.87	33.50	13.43	5.10	52.03	10034
V.	3.90	10.76	5.57	5.18	2.45	2.24	9.26	6.70	6.49	35.89	14.22	5.58	55.69	13354

The first thing which strikes the mind on surveying the preceding Table, is the vast diminution in the proportion of deaths by the Small Pox; a reduction from 19.55 to 3.90; but the increase in the subsequent column is still more remarkable, an increase from .95 to 10.76. In the Small Pox we have the deaths reduced to nearly a fifth of what they were twenty five years ago; in the same period, the deaths by Measles have increased more than eleven times. This is a fact so striking, that I am astonished it has not attracted the notice of older practitioners, who have had it in their power to compare the mortality by Measles in former periods, with what all of them must have experienced during the last five years.

The greatest number of deaths, which has happened by Small-Pox, in any one month during the last thirty years, was 114. This took place in October 1791. In the month of December immediately following, they amounted to 113, these are the only two instances in thirty years, where the deaths by Small Pox amounted to one hundred in a month. But these are slight visitations, when compared with the ravages which have been committed in an equally short time by

the Measles. In May 1808 the deaths by Measles alone, amounted to 259, in June to 260, and in July to 118. In December 1811, they amounted to 161, and in the January immediately following to 130. What an amazing difference, when we compare these numbers with 433, the sum of all the deaths by Measles in eighteen years preceding 1801. In the last five years, 1430 have died of Measles in Glasgow.

When the Measles were so prevalent and fatal in 1808, I have often been told that it was owing to the vaccine inoculation; but I considered this as an idle tale, the invention of those who were hostile to the Cow Pox. I could readily admit that more must die of Measles now than formerly, for if the whole children were saved from the Small Pox, a fifth or a sixth part, must necessarily be added to the deaths by the Measles. Perhaps something more than this might reasonably be expected. Some of the weak and unhealthy, who would have died of Small Pox, are left to fall a sacrifice to the Measles. Thus if five formerly died by the Measles, that number might now be increased to six, eight, or perhaps ten, but I could not go farther. This I have constantly

stated to my pupils, and to my patients as often as the subject happened to be mentioned.

But however novel and strange the opinion may appear, it must be admitted that while the Small Pox were in full force, they had the power of modifying and rendering the Measles mild; and now that they are in a great measure expelled, the Measles are gradually coming to occupy the same ground which they formerly occupied. I am sorry to make this statement, but the facts, at least with regard to Glasgow, are too strong to admit of doubt.

That the Measles should have been thus modified by the Small Pox, is rendered highly probable by various analogical facts. The manner in which the vaccine disease prevents the Small Pox is quite in point, and when it has failed in preventing them altogether, it has rendered them so mild, as not to be attended with the smallest danger. May not the Small Pox have a similar effect with regard to the Measles?

When the Small Pox were in full force, few children escaped them for any considerable length of time. Hence it will be found, that most of those who have had the Small Pox and Measles in the casual way, have had the Small

Pox first. This I believe will have been the case in more than nine tenths of the community. Still, however, as the Measles came round now and then, as a very general epidemic, they must occasionally have had the precedence, and it was perhaps chiefly among such patients, that the disease proved fatal. I am the more disposed to believe this, because in looking over the registers of these times, I find the deaths by Measles were generally among very young children. I may mention another fact in confirmation of this hypothesis. The only family within my knowledge, where three died of the Measles in 1808, was one where none of the children had been either vaccinated or had had the Small Pox. I met with another family where two died in the same circumstances.

An opinion has prevailed with some, that vaccination does positive harm, by infusing some peccant or vicious humour into the constitution. I do not see the smallest ground for this hypothesis; but that Small Pox do good to those who survive the disease, by rendering the system insusceptible of other infections, or by rendering these diseases, when they do take place, more mild, must, I think, be admitted. This opinion is

contrary to all medical belief, but the facts before us seem sufficiently strong to warrant the conclusion. In the first period, the deaths by Small Pox amounted to more than a third of all the deaths under ten years of age; yet there is no time, when a child had a better chance of reaching its tenth year, than in this very period. In the fourth period indeed, the deaths under ten are only 52.03 per cent.; but this diminution depended on a decrease of the deaths under two, which is about balanced by an increase in the last period, where the deaths under ten are above an average of the whole preceding twenty four years.

The great increase of deaths between two and ten years of age is very remarkable. In the first period they amounted to no more than 14.08 per cent.; in the last period they came little short of 20 per cent. Are we to expect a continuation of this increase of deaths from ten to fifteen, generally a very critical period of life; and in the ages from fifteen to twenty? As matters now stand, we have gained under two; we have lost between two and five, and also between five and ten. At ten we stand nearly on the original level, but if we are to lose between ten and twenty,

it shews us how truly abortive all our schemes have been. We may, it seems, by the permission of Divine Providence, deprive death of some of his apparently most efficient means, but deprived of these, new means are discovered, or the old improved.

I cannot help quoting the following passage from Dr Woolcombe, as somewhat prophetic of this general result. "May not the discovery of the Cow Pox," says he, "if it should ultimately effect the extermination of the Small Pox, which it may do when the prejudices of mankind shall permit, be welcomed rather on account of its influence in diminishing human suffering, than on account of its effect in diminishing human mortality? Since disease is one of the appointed checks to excessive population, and the plan of Providence in the creation of human life, requires the termination of the existence of one third of its creatures, before they have attained the age of two years, it may be doubted whether the annihilation of so efficient an instrument as Small Pox, can be admitted without the substitution of some other equally destructive malady. The substituted malady may, indeed be productive of less collateral af-

fliction, than the loathsome distemper whose place it supplies. But granting that no direct substitute should arise, it will not follow that disease in general will be deprived of its accustomed share in checking population; and if it be not, the only difference will be in the proportion of victims submitted to other disorders. The infant rescued from Small Pox, may be rescued only to perish in childhood by Measles or Scarlatina, or be preserved to swell the list of youthful victims to the insatiate maw of Consumption." This speculation," continues Dr W. " on the influence of Cow Pox on population, is totally foreign from the question of the merits and advantages of vaccination, which in my estimation are placed beyond all cavil *."

I have supposed that the constitution is improved by the Small Pox, certainly not by imparting a greater portion of health than was originally assigned to the individual; but perhaps by eradicating certain unobserved deviations from health, which if not early removed, by the accession of some acute disease, would have proved the seeds of early mortality, by gaining a deeper hold of the constitution before the

* Remarks on the frequency and fatality of different Diseases, p. 48, 1808.

Measles and other epidemics, which are generally later in their appearance, came round.

That the deaths under ten years of age have not been diminished by the removal of the Small Pox, may perhaps be explained in this way. We may suppose that the seeds of early mortality are coeval with life, they may be communicated from the mother during gestation, or they may be implanted by improper nursing and future mismanagement. In this manner, being always present, they only require the fostering aid of some acute disease, to render them superior to the energies of the constitution, and the powers of medicine. In this point of view we are not to consider the Small Pox as so peculiarly fatal in their nature. They perhaps prove so fatal merely by having the start of other diseases. The Measles, the Chincough, the Croup, the Scarlet Fever, and perhaps many others, would have proved equally fatal, had they occurred first.

The question will be naturally asked, what is this condition of body on which early death so materially depends? Can it be discovered by any set of symptoms? Can medicine have any share in its removal? To enter on the consideration

of these subjects, would be foreign to my present purpose; but I could not help pointing them out as objects well worthy of medical attention.

The present Inquiry must lead to another very important end, I mean the forming a just estimate of the danger of certain diseases. How miserably disappointed would that practitioner be, who forms his estimate of Measles now, by the sentiments of Dr Cullen and others, who practised thirty years ago? At that time the deaths did not amount to one per cent. of the whole deaths. In the London Bills of Mortality, about ten or eleven in a thousand; whereas in Glasgow, on an average of the last six years, they exceed ten and a half per cent; in the last five years they are above twelve per cent.

The practitioner is generally on the alert in proportion to the supposed danger of the disease he is treating. May we not then fairly conclude, that the dreadful mortality of Measles, is, in some measure, to be imputed to the practitioner's not being aware of the formidable nature of the disease he had to contend with. In 1802 I was very much disappointed in my endeavours to relieve my patients, though I applied, as I thought, with sufficient diligence the

remedies said to be effectual. This led me in future epidemics, particularly that of 1808 and that in the end of 1811 and beginning of 1812, to adopt more vigorous measures, and I certainly did think that my practice was much more successful.

I used emetics when called in early, with the most decided advantage. The most active purgatives were found beneficial throughout the whole course of the disease. When the head, thorax or abdomen seemed threatened with more than ordinary oppression or increased action, the lancet seldom failed to give complete relief. By the steady use of these branches of treatment, and the occasional application of a blister, I have rescued many patients from apparent death; and I am not without hopes, that by a general adoption of such measures, many more may be saved from this disease.

Wherever Measles proved fatal, it was in consequence of the most acute inflammation of the contents of the cranium, the thorax or the abdomen; or in consequence of that oppressed state of the system, which, if not relieved by the most active measures in the beginning, terminates in what is termed a putrid or nervous

diathesis, putting on all the appearances of the most malignant Typhus. Of this last condition I saw many deplorable instances, where I was late in being called in, or where the patients had previously been treated on what is termed the tonic plan.

In forming an estimate of the danger of any epidemic disease, it may perhaps be necessary to inquire whether or not it is the first with which the child has been affected. On this circumstance, if my new ideas be correct, much stress ought to be laid, particularly in so far as it regards the casual Small Pox and Measles. It is only on this principle that we can explain how it happened, that thirty years ago, not one in a hundred died of Measles, whereas now more than one in ten dies of them. At that time as few escaped the Measles entirely as now; but before they were affected with Measles they had generally passed through the Small Pox, by which the secondary disease was so modified, as to be almost completely divested of danger.

I have often wondered what effect variolus Inoculation may have had upon the Measles. It will be seen by the Tables, that the Measles

had begun to be more fatal long before the introduction of the Cow Pox. Could this be in consequence of Inoculation becoming more general? In the second and third periods, the deaths by Small Pox had diminished one per cent. while those by Measles had increased in a similar or greater proportion.

To enable the reader to form a sort of comparison between the deaths in Glasgow and those in other Cities, the following abstract of the London Bills of Mortality, in so far as regard Small Pox and Measles, may not be uninteresting. The century is divided into ten equal periods, as given in the first column. The second column contains the average proportion of deaths by Small Pox in each thousand of the whole deaths, in each period. The third column contains the proportion of deaths by Measles; and the last the total deaths in London during the whole century.

TABLE.

Periods.	Small Pox.	Measles.	Total Deaths.
From 1700 till 1711	56.6	5.5	214,611
1710 — 1721	80.4	6.5	239,095
1720 — 1731	84.0	5.6	274,922
1730 — 1741	77.1	7.0	264,925
1740 — 1751	72.0	6.8	253,527
1750 — 1761	102.7	11.5	204,607
1760 — 1771	102.7	11.1	234,416
1770 — 1781	96.3	9.3	214,605
1780 — 1791	92.2	11.0	192,690
1790 — 1801	94.2	13.4	196,801

This Table shews two very remarkable circumstances, namely, that the number of deaths by Small Pox in the last half of the century was much greater than in the first; notwithstanding Inoculation and all the improved methods of treating that disease; and that the number of deaths by Measles in the last half, was nearly double that of the first. I am sorry I have not the means, just now, of bringing down this investigation from 1800 to the present time.

With regard to Chincough, the Small Pox and Measles do not seem to hold the same connection. During the whole thirty years, Chincough seems to have maintained a very steady course. It has increased, but not in any very considerable degree. When the Small Pox were at their greatest height in 1791, the Chincough had more than its ordinary proportion of the deaths. In 1808, when the Measles outstripped every former epidemic, still the Chincough produced its full share of the mortality. The same remark will apply in 1811 and also in 1812.

Between Small Pox, Measles and Stopping, there is perhaps a more intimate connection. It is certainly very remarkable, that notwithstanding the boasted improvements in the treatment of Croup, the deaths by that disease should be more than doubled. It is to be remarked, however, that all the cases registered under Stopping, may not have been genuine cases of Croup.

As to the increase of deaths by Water in the Head, I have already hinted that that circumstance may be accounted for by the disease being better known. Teething has diminished in a similar proportion.

I was in hopes, for the credit of medicine, that

the number under the term Bowelhives would have been diminished. That it has not diminished, may perhaps be accounted for from this circumstance, that the report is generally received from the people themselves, who have often their own notions as to the nature of the complaint; and which they never fail to consider as fully confirmed, if the body become livid after death.

I had hoped too, that the number of Still-born children would have been reduced, but here I have also been disappointed. The proportion on the contrary has increased from 5.03 to 6.70, or something more than a per cent. and a half on the whole deaths. With regard to this increase, the Small Pox and Vaccination could have had no share, and therefore we must look for other causes to account for it. One of the most probable, is the introduction of particular manufactures, by which immense numbers of women are employed in public works or confined to sedentary employments, by which the general health and vigour of the system must be materially impaired.

From this cause, we may calculate not only on a greater number of dead born children, but

also on a more puny offspring in general, and consequently on a greater number of deaths in infancy.

I may add, that among the working people, children are perhaps more neglected during infancy now than they were formerly. There is a greater temptation, and perhaps a greater necessity for women to follow employments, and when they are working, to confine their children to a craddle, or intrust them to young persons, who want both care and experience to do them justice. Another cause still remains to be noticed, that of confining the children themselves, at a very early age, to sedentary employments, or what is perhaps still worse, to unhealthy public works.

From these considerations, I am of opinion, that were the Small Pox to prevail, as generally now as they did thirty years ago, perhaps the proportion of deaths by that disease would be still greater than it was then. This fact, however, can only be ascertained by reports from different parts of the kingdom, where different customs and different employments prevail. I am in hopes that the present Inquiry,

will call forth similar investigations from other quarters.

The numbers who have died of Fevers, have suffered considerable revolutions, but have diminished upon the whole. In the early periods they are said to have been chiefly owing to Typhus, in later times Scarlatina has had a considerable share. I would suggest as an improvement in the Registers, that the deaths by the latter disease, should be carefully distinguished from others. I am persuaded, that of late Scarlatina has been a very considerable cause of mortality among children.

THE END.

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